

Contractual Value Engineering

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AFSC - On the Line



Value Engineering:

A proven tool

**to reduce costs and increase the
value of products and
operations.**



The Value Methodology Job Plan

→INFORMATION PHASE

- Complete data package
- Modify scope

- What is the problem or opportunity?
- Why do you consider it a problem or opportunity?
- Why is a solution necessary?
- What is the cost?
- Develop a plan to gather project data
- Investigate the project
- Verify data

→FUNCTION ANALYSIS PHASE

- Identify functions
- Classify functions
- Develop function models
- Cost functions
- Establish value index
- Select functions
- What is the task function?
- What are the basic functions?
- What are the supporting functions?

→CREATIVE PHASE

- Create quantity of ideas by function
- What else can perform the function?
- Where else can the function be performed?
- How else can the function be performed?

→EVALUATION PHASE

- Rank and rate alternative ideas
- Select ideas for development
- How must each idea work?
- What is the feasibility of implementation?
- What will be the cost?
- When will we breakeven?
- What is the best overall alternative?

→DEVELOPMENT PHASE

- Conduct benefit analysis
- Complete technical data
- Create implementation Plan
- Prepare final proposals
- How can disadvantages be overcome?
- Why is the new way better?
- Will it meet all the requirements without compromise of form, fit, or function?
- What are the annual savings?

→PRESENTATION PHASE

- Present oral report
- Prepare written report
- Who should be sold?
- How should the ideas be presented?
- What was the problem?
- What is the new way, savings, and benefits?
- How will it satisfy our customers?
- What is needed to implement the proposals?
- Who is responsible for implementing the proposals?

PRE-STUDY

- Collect user/ customer attitudes
- Complete data files
- Determine evaluation factors
- Scope the study
- Build data models
- Determine team composition

- What is to be included in the study?
- Who is best able to study the problem?
- What are the current and future requirements of the subject under study?
- What type of impediments will the team come against?

POST-STUDY

- Verify accomplishments
- Present results
- Advertise outcomes

- Did the new way work?
- How much did it cost/save?
- Did the change meet customer's expectations?

- implement changes
- Monitor status



Recent VE Conference...

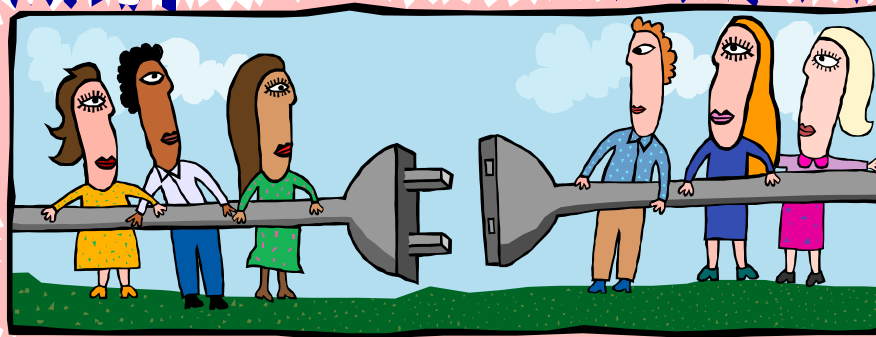
Track 1 Construction	Track 2 Industry	Track 3 Education/Tech	Track 4 Case Studies
Professor, Glasgow Caledonian University, Scotland “A Quick Approach to FAST Diagrams”	TRW Washington, MI “Role of the Facilitator as Team Leader in Value Management”	Pratt & Whitney East Hartford, CT “Accelerating the Development of VM Practitioners”	Institute for Transport Sciences Budapest, Hungary “A Technical and Economical Efficiency Analysis”
	U.S. Army Rock Island, IL “VE Metrics - Growing Your Program”		East Japan Railways Tokyo, Japan “A Suggestion for Profitable App. of VE Methods Through Use...”
Boldt Consulting Appleton, WI “Opportunities to Introduce Value	General Motors Warren, MI “Using VA to Implement Lean	Applied Materials Austin, TX “Value Training Success in the	Shehezi University, & Petrochemical Works Xinjiang, China “Value Analysis



VE is Applicable to:

✓ **Government
owned and
operated
installations and
operations.**

✓ **Contractor
operation,
through use of
FAR Part 48, and
FAR Part 52.248.**



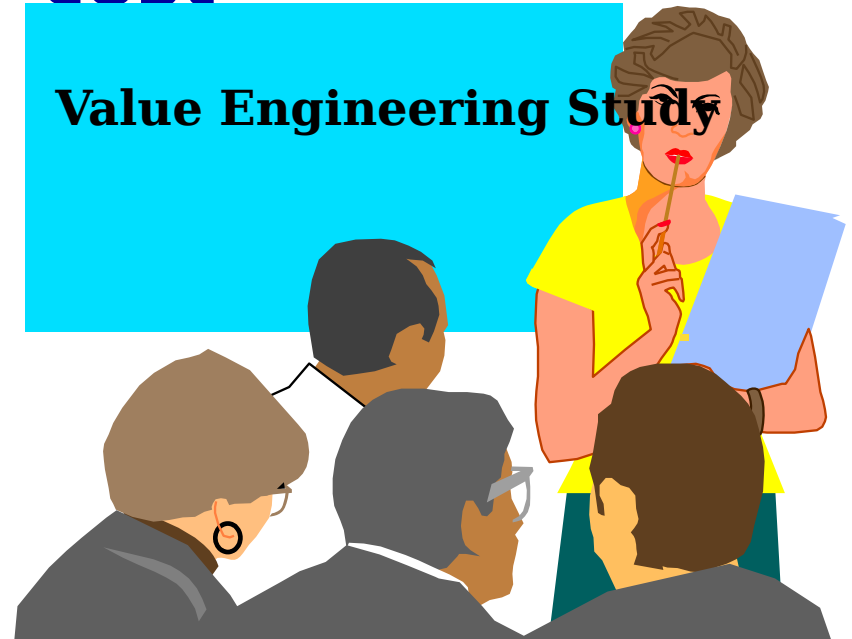


Why VE Clauses ?

- ✓ Increase use of VE techniques
- ✓ Incentives to reduce government cost



Value Engineering Study





What is a VECP ?

- ✓ **A contractor submitted cost reduction proposal submitted under a VE clause in the FAR.**
- ✓ **Two basic VECP requirements**
 - **Requires a change to the contract to implement**
 - **Results in reducing projected cost to the agency**





Where do I find the VE clauses ?

- ✓ **FAR Part 48 - Policies and Procedures for use of clauses**
- ✓ **FAR Part 52.248 - the VE clauses**



I love a good book!





Major VE Incentive Approaches

Mandatory

- ✓ Government funds study effort
- ✓ Contractor receives smaller share of savings
- ✓ Greater Government Risk, Return
- ✓ Reduced Contractor Risk, Return

Voluntary

- ✓ Contractor can pursue studies using their own funds
- ✓ Contractor receives a large share of savings
- ✓ Greater Contractor Risk, Return
- ✓ Reduced Government Risk, Return





Voluntary Clause Savings

Contract Type	Instant Contract	Concurrent & Future Contract
Fixed Price (Other than incentive)	50-75%	50-75%
Incentive (Fixed Price or Cost)	Contract Specified	50-75%
Cost Reimbursemen t (Other than incentive)	25-50%	25-50%



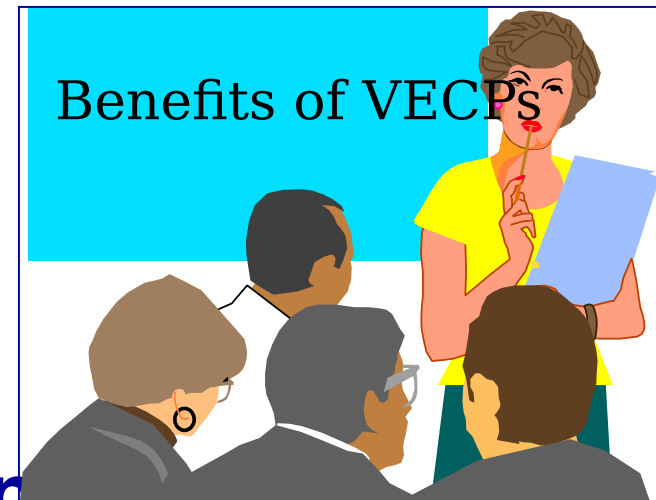
Mandatory Clause Savings

Contract Type	Instant Contract	Concurrent & Future Contract
Fixed Price (Other than incentive)	25%	25%
Incentive (Fixed Price or Cost)	Contract Specified	25%
Cost Reimbursemen + (Other than incentive)	15%	15%



Voluntary Clause

- ✓ **Most common**
- ✓ **Requires no additional Government Funding**
- ✓ **Contractor puts his funds at risk to develop VECs**
- ✓ **Show interest to be successful**
- ✓ **Clause: FAR 52.248-1**

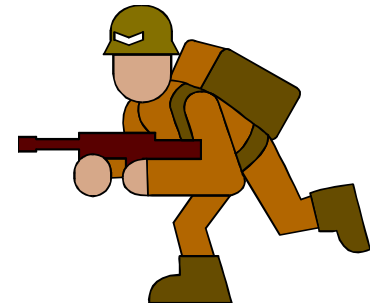




Voluntary Clause Incentives

For an approved VECP, the contractor receives :

- ✓ **Development & Implementation Costs**
- ✓ **Share of Acquisition Savings:**
 - **Instant contract savings**
 - **Concurrent contract savings**
 - **Future contract savings**
 - **Incentives based on contract type and negotiated sharing rates and period**
- ✓ **Share of collateral savings**
 - **Sharing rate negotiated between 20-100% of typical year**





VE Contractual Incentives

Before VECP:

Contract Cost \$1,000,000

profit @ 10% 100,000

Contract Price \$1,100,000





After 20% VECP Cost Reduction: **VE Contractual Incentives**

Original Contract Cost

\$1,000,000

VECP Net Cost Savings

=

200,000

New Contract Cost

\$800,000

Original Contract Profit

\$100,000

50% Share of VECP Savings

\$100,000

Total Profit

\$200,000

New Contract Price

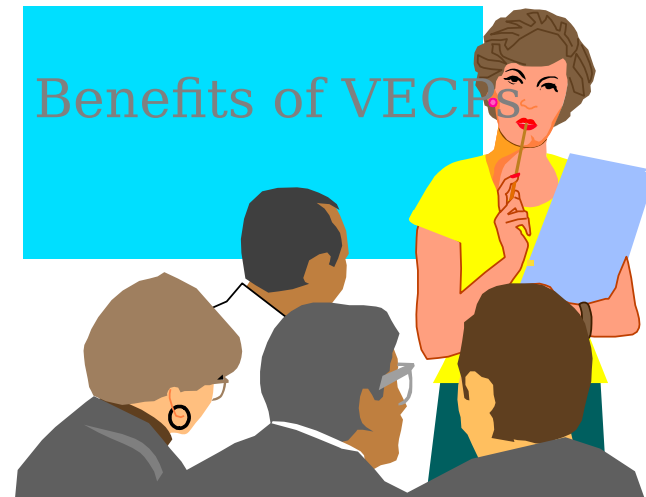
\$1,000,000





Mandatory Clause

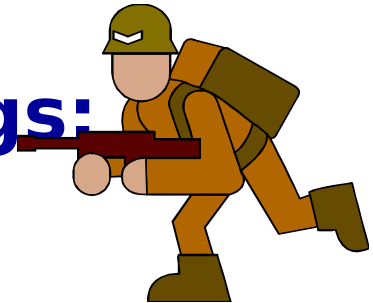
- ✓ **Requires additional Government Funding**
- ✓ **Government puts its funds at risk to develop VECs**
- ✓ **Demonstrates Interest in Program**
- ✓ **Clause: FAR52.248-1(Alt. 1)**





Mandatory Clause Incentives

- ✓ **For an approved VECP the contractor receives :**
 - **Development & Implementation Costs**
 - **Share of Acquisition Savings:**
 - **Instant contract savings**
 - **Concurrent contract savings**
 - **Future contract savings**
 - **Incentives based on contract type**





40MM Mandatory Clause VE

- ✓ **Tentative Plan: Mandatory clause on specific areas of environmental concern.**
 - **Intent - reduce or eliminate hazardous materials and pollutants.**
 - **Contractors identify hazardous materials in Hazardous Material Management Plan**
 - **Possible workshop with government to establish promising avenues for reduction.**
 - **Implement mandatory provisions.**

COMMUNICATE on possible voluntary and mandatory VE actions.

- Good communication reduces risk for both parties -





Hazardous Materials/Pollutants

- ✓ **Class One ODC's**
- ✓ **Hazardous Air Pollutants (per US EPA)**
- ✓ **US EPA 17 Target Pollutants List:**

- **Benzene**
- **Methyl Ethyl Ketone**
- **Cadmium (and compounds)**
- **Methyl Isobutyl Ketone**
- **Carbon Tetrachloride**
- **Nickel (and compounds)**
- **Chloroform**
- **Toluene**
- **Chromium (and compounds)**
- **Trichloromethane**
- **Cyanides**
- **Trichloroethylene**
- **Dichloromethane or Methylene Dichloride**
- **Xylene**
- **Lead (and compounds)**
- **Tetrachloroethylene or Perchloroethylene**
- **Mercury (and compounds)**





40MM Voluntary Clause VE

- ✓ **Contractors can submit VECs under the Voluntary Clause anytime.**
- ✓ **We encourage contractors to use the provisions of the Voluntary Clause. To encourage VECs, we are considering:**
 - **Plan to identify for contractors areas of particular interest.**
 - **Possible use of joint government/contractor VE Workshop.**

COMMUNICATE on possible voluntary and mandatory VE actions.

- Good communication reduces risk for both parties -





40MM Voluntary Clause VE

- Possible Areas of Special Interest -

- ✓ **Increase Lethality**
- ✓ **Reduce Dud Rates**
- ✓ **Address Insensitive Munitions Requirements**
- ✓ **Reduce Time-of-Flight**
- ✓ **Reduce Cost**
- ✓ **Address M781 Night Signature Capability**
- ✓ **Provide Impact Marker for M203 Gun System**
- ✓ **M583 Parachute Round**
 - **Increase Hang Time/Burn Time**
 - **Increase Illuminant**





Contractual Value Engineering



- ✓ **Value Engineering Clauses provide useful and flexible incentives for cost reduction.**
- ✓ **Approved VECPs are good for the Government and for Contractors.**
- ✓ **The Government must encourage contractors to submit VECPs, and be fair and responsive when considering a VECP for approval.**
- ✓ **Recommend use of Joint Government/Contractor VE workshops.**

COMMUNICATE!





VECP PREPARATION

from FAR 52.248-1 paragraph C

- 1. Describe the difference between the existing requirement and the proposed change.**
- 2. A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.**
- 3. Identification of the first unit to which the VECP applies.**
- 4. Provide a cost estimate for the affected portions of the existing contract requirement and the VECP.**
- 5. Provide a description and estimate of costs the Government may incur in implementing the VECP, e.g., test and evaluation, operating and support.**





VECP PREPARATION

continued

- 6. Estimate the collateral cost savings or increases that the Government will experience upon implementation of the VECP.**
- 7. Identify the point in time that a contract modification implementing the VECP must be issued in order to maximize possible savings.**
- 8. Identify any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.**





Format of the Formal VECP

- 9. Transmittal letter forwarding the VECP to the PCO and ACO . The transmittal letter should state that the VECP is being submitted pursuant to the VE provisions of the Contract.**
- 10. The VECP should be submitted on Government form DD 1692 (Engineering Change Proposal). At the top of the form put “Value Engineering Change Proposal, pursuant to the contract clause”. The VECP can also be submitted on your own ECP format.**

(From FAR 52.248-1 paragraph C)

